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EXAMINER

PHAM, TUAN

ART UNIT	PAPER NUMBER
2643	

DATE MAILED: 11/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

10/004,001

Applicant(s)

ZHAO ET AL.

Examiner

TUAN A PHAM

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 12, 14, 15, 18 and 27-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12, 14-15, 18, and 27-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/01/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see Applicant's Remark, filed on 08-05-2004, with respect to the rejection(s) of claim(s) 1-41 under Engelke et al. (U.S. Patent No.: 5,581,593) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Dayton et al. (U.S. Patent No.: 4,799,254).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 30-37 are rejected under 35 U.S.C. 102(b) as being anticipated by Dayton et al. (U.S. Patent No.: 4,799,254, Hereinafter, "Dayton").

Regarding claim 30, Dayton teaches a communication device (see figure 8), comprising:

a multifunctional keyboard, wherein a plurality of keys on the multifunctional keyboard correspond to both a number and a letter, and wherein each of the keys

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generates a keyboard output signal (see figure 4, plurality of key with letter and number, col.7, ln.22-35);

a processor coupled to the multifunctional keyboard that is configured to convert each keyboard output signal generated by the plurality of keys into a character code (see figure 8, controller 50, col.5, ln.5-15, figure 11, col.8, ln.3-29);

means for converting each keyboard output signal generated by the plurality of keys into a telephony tone signal (see figure 8, figure 11, controller 50, col.8, ln.2-29); and

a keyboard mode control software module (i.e., appropriate stored instructions) operating on the processor that controls whether the keyboard output signal for each of the plurality of keys represents the number or the letter corresponding to the key, and also controls whether the keyboard output signals from the plurality of keys are converted into character codes or telephony tone signals (see figure 8, figure 11, controller 50, col.5, ln.1-67, col.6, ln.1-64, it is inherently that the controller or processor should be includes the module or block that store instructions to control the keyboard for supporting the plurality modes such as telephone mode, calculator mode and edit mode).

Regarding claim 31, Dayton further teaches the communication device wherein the multifunctional keyboard is a QWERTY style keyboard (see col.4, ln.60-62).

Regarding claim 32, Dayton further teaches the communication device wherein the converting means is the processor (see col.5, ln.1-15).

Regarding claim 33, Dayton further teaches the communication device wherein the converting means is a tone signal generator (see figure 8, DTMF generator 53).

Regarding claim 34, Dayton further teaches the communication device wherein the telephony tone signals are Dual Tone Multi Frequency (DTMF) signals (see col.6, ln.2-18).

Regarding claim 35, Dayton further teaches the communication device wherein the character codes are American Standard Code for Information Interchange (ASCII) character codes (see figure 11, col.6, ln.60-64).

Regarding claim 36, Dayton further teaches the communication device wherein the multifunctional keyboard is symmetrically distributed across a housing of the communication device (see figure 4, keyboard 26).

Regarding claim 37, Dayton fails to explicitly teach the communication device wherein a first portion of the letter keys are tilted at a negative angle from vertical and a second portion of the letter keys are tilted at a positive angle from vertical. However, Dayton teaches a keyboard (see figure 4, keyboard 26) with all keys placed in vertical direction. Thus, by selecting the shape of keyboard as claimed that would not involve any inventive features, since it is just a matter of selecting the layout or shaping of keyboard. Therefore, it is inherently to design the keyboard with letters are tilted negative and positive angle.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-10, 12, 18, and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dayton et al. (U.S. Patent No.: 4,799,254, Hereinafter, "Dayton") in view of Yoshida et al. (U.S. Patent No.: 6,690,417, hereinafter, "Yoshida").

Regarding claims 1 and 18, Dayton teaches a method and communication device (see figure 8), comprising:

a multifunctional keyboard having a plurality of letter keys, wherein each letter key is configured to generate a keyboard output signal (see figure 4, key board 26 with plurality of key with letter, col.7, ln.22-35);

a processor coupled to the multifunctional keyboard that is configured to convert each keyboard output signal generated by the letter keys into a character code (see figure 8, controller 50, col.5, ln.5-15, figure 11, col.8, ln.3-29);

means for converting each keyboard output signal generated by the letter keys into a telephony tone signal (see figure 8, figure 11, controller 50, col.8, ln.2-29);

a keyboard mode control software module operating on the processor that controls whether the keyboard output signals from the letter keys are converted into character codes or telephony tone signals; and

the keyboard mode control software module (i.e., appropriate stored instructions) being operable to automatically determine the keyboard mode associated with an active one of the plurality of software applications, wherein the keyboard mode is used by the keyboard mode control software module to automatically determine whether the keyboard output signals from the letter keys are converted into character codes or telephony tones signals (see figure 8, figure 11, controller 50, col.5, ln.1-67, col.6, ln.1-64, it is inherently that the controller or processor should be includes the module or block that store instructions or software to control the keyboard for supporting the plurality modes such as telephone mode, calculator mode and edit mode).

It should be noticed that Dayton fails to clearly teach a plurality of software applications stored in a memory of the communication device and executed by the processor, the plurality of software applications each having an associated keyboard mode. However, Yoshida teaches such features (see figure 5, figure 7, ROM 32, col.9, ln.58-67, col.10, ln.34-50, col.11, ln.36-67) for a purpose of supporting a plurality mode.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of a plurality of software applications stored in a memory of the communication device and executed by the processor, the plurality of software applications each having an associated keyboard mode, as taught by Yoshida, into view of Dayton in order to save cost and make a device to support a plurality functions.

Regarding claim 2, Dayton further teaches the communication device wherein the multifunctional keyboard is a QWERTY style keyboard (see col.4, ln.60-62).

Regarding claim 3, Dayton further teaches the communication device wherein the converting means is the processor (see col.5, ln.1-15).

Regarding claim 4, Dayton further teaches the communication device wherein the converting means is a tone signal generator (see figure 8, DTMF generator 53).

Regarding claims 5 and 27, Dayton further teaches the method and communication device wherein the tone signal generator also generates an audible tone when one of the letter keys is pressed (see col.9, ln.20-26).

Regarding claim 6, Dayton further teaches the communication device wherein the keyboard mode control software module also controls whether the keyboard output signals from the letter keys are converted into both character codes and telephony tone signals (see figure 8, figure 11, col.8, ln.3-29).

Regarding claim 7, Dayton further teaches the communication device wherein the telephony tone signal generated for each letter key corresponds to an integer ranging from two (2) to nine (9) (see col.5, ln.25-30).

Regarding claim 8, Dayton further teaches the communication device wherein the telephony tone signals are Dual Tone Multi Frequency (DTMF) signals (see col.6, ln.2-18).

Regarding claim 9, Dayton further teaches the communication device wherein the character codes are American Standard Code for Information Interchange (ASCII) character codes (see figure 11, col.6, ln.60-64).

Regarding claim 10, the communication device of claim 10 is rejected for the same reason as in apparatus of claim 30.

Regarding claim 12, Yoshida further teaches the communication device wherein the memory is coupled to the processor and includes a service store memory location that associates each software application with the associated a keyboard mode (see col.14, ln.4-40).

Regarding claim 28, Dayton further teaches the communication device wherein the audible tone may be enabled or disabled by a communication device user. It is obvious the user can disable or enable the audio tone whenever they want.

Regarding claim 29, Dayton further teaches the communication device wherein the audible tone generated while the communication device is executing the telephony mode is different from the audible tone generated while the communication device is executing the data mode (see col.5, ln.15-34, the DTMF tone should be different from ASCII tone).

6. Claims 14-15 rejected under 35 U.S.C. 103(a) as being unpatentable over Dayton et al. (U.S. Patent No.: 4,799,254, Hereinafter, "Dayton") in view of Yoshida et al. (U.S. Patent No.: 6,690,417, hereinafter, "Yoshida") as applied to claim 1 above, and further in view of Miller (U.S. Patent No.: 5,660,488).

Regarding claim 14, Dayton and Yoshida, in combination, fails to teach the communication device wherein the multifunctional keyboard is uniformly distributed across a housing of the communication device such that one half of the letter keys are located on a left-hand side of the housing and the remaining letter keys are located on a right-hand side of the housing. However, Miller teaches such features (see figure 4, keyboard 440) for a purpose of changing the layout of keyboard.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the use of the communication device wherein the multifunctional keyboard is uniformly distributed across a housing of the communication device such that one half of the letter keys are located on a left-hand side of the housing and the remaining letter keys are located on a right-hand side of the housing, as taught by Miller, into view of Dayton and Yoshida in order to conveniently operate the keyboard.

Regarding claim 15, Miller further teaches the communication device wherein the letter keys on the left-hand side of the housing are tilted at a negative angle from vertical and the letter keys on the right-hand side of the housing are tilted at a positive angle from vertical (see figure 4, keyboard 440).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. In order to expedite the prosecution of this application, the applicants are also requested to consider the following references. Although Scozzarella et al. (U.S. Patent No. 6,049,697), Pabon et al. (U.S. Patent No. 6,429,855), Aaro et al. (U.S. Patent No. 6,662,020), and Lapeyre (U.S. Patent No. 4,999,795) are not applied into this Office Action; they are also called to Applicants attention. They may be used in future Office Action(s). These references are also concerned for supporting the system and method of computer telephony integration employing an intelligent keyboard.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Tuan A. Pham** whose telephone number is (703) 305-4987. The examiner can normally be reached on Monday through Friday, 8:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Curtis Kuntz can be reached on (703) 305-4708 and

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Art Unit 2643
November 16, 2004
Examiner

Tuan Pham


GEORGE ENG
PRIMARY EXAMINER